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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,218	03/26/2002	Takeo Watanabe	Q62771	1880

7590 10/03/2003

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/019,218	WATANABE ET AL.	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6-14 and 17-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takami (6,166,101). Takami discloses coating compositions comprising a compound as component (D) having either two oxetane rings or oxetane rings and epoxy groups in a molecule and a cation-polymerization initiator. The compound having an oxetane ring and an epoxy group in the molecule can be an alicyclic compound containing a 3,4-epoxycyclohexylmethyl group (column 9, lines 17-50). It would have been obvious to one skilled in the art at the time of the invention to provide a compositions according to the disclosure of Takami wherein component (D) is a compound of formula (18) wherein "R^{19}" is a 3,4-epoxycyclohexylmethyl group, as taught by Takami. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing a useful coating composition for forming a coating film having the properties set forth in the Abstract of US '101.

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinmann et al (6,084,004) in view of Tinsley et al (3,457,193) or, alternatively, over Tinsley et al in view of Weinmann et al. Weinmann et al disclose compositions in which component (a) can have an epoxy group and an oxetane group and component (b) is a diaryliodonium salt. The compositions are useful for coating substrates, as well as in dental compositions, for gluing and embedding. See column 3, line 64, to column 5, line 3 and column 6, lines 30-32. Tinsley et al disclose epoxyoxacyclobutanes, including compounds having an epoxycycloalkyl spiro ring, and polymers thereof. See column 4, lines 1-23. Tinsley et al teach

using the compounds in heat curable compositions to produce coatings or laminates, or as adhesives, moldings or castings. Addition of hardeners and acidic and basic catalysts is taught. See column 6, line 44, to column 7, line 69.

It would have been obvious to one skilled in the art at the time of the invention to select compounds having an epoxy group and an oxetane group as component (a) in the compositions disclosed by Weinmann et al because Weinmann et al teach this alternative as component (a). One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success. It would have been obvious to one skilled in the art at the time of the invention to employ the cycloaliphatic epoxy oxacyclobutanes of formula IV taught by Tinsley et al as component "a" having an epoxy groups and an oxetane group in the compositions disclosed by Weinmann et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing compositions that undergo light induced cationic curing and provide very good mechanical properties, as taught by Weinmann et al.

Alternatively, It would have been obvious to one skilled in the art at the time of the invention to substitute a cationic initiator and light induced cationic curing, as taught by Weinmann et al, for the acidic or basic catalysts and thermal cure disclosed by Tinsley et al in an analogous composition. One of ordinary skill in the art at the time of the invention would have been motivated by an expectation of curing the compositions of Tinsley et al by light induced cationic curing because the component to be cured in the compositions taught by Tinsley et al comprises epoxy and oxetanyl groups, as does the component to be cured in the compositions disclosed by Weinmann et al.

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinmann et al in view of Danielisz et al (3,388,105) or, alternatively, over Danielisz et al in view of Weinmann et al. Weinmann et al disclose compositions in which component (a) can have an epoxy group and an oxetane group and component (b) is a diaryliodonium salt. The compositions are useful for coating substrates, as

well as in dental compositions, for gluing and embedding. See column 3, line 64, to column 5, line 3 and column 6, lines 30-32. Danielisz et al disclose heat curable compositions comprising a cyclohexylepoxy compound having an oxacyclobutane ring, thus a species of the composition set forth in claims 1-3. See Examples I to V and Example VII.

It would have been obvious to one skilled in the art at the time of the invention to select compounds having an epoxy group and an oxetane group as component (a) in the compositions disclosed by Weinmann et al because Weinmann et al teach this alternative as component (a). One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success. It would have been obvious to one skilled in the art at the time of the invention to employ the cycloaliphatic epoxy oxacyclobutanes taught by Danielisz et al as component "a" having an epoxy groups and an oxetane group in the compositions disclosed by Weinmann et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing compositions that undergo light induced cationic curing and provide very good mechanical properties, as taught by Weinmann et al.

Alternatively, It would have been obvious to one skilled in the art at the time of the invention to substitute a cationic initiator and light induced cationic curing, as taught by Weinmann et al, for the acid anhydride curing agents and thermal cure disclosed by Danielisz et al in an analogous composition. One of ordinary skill in the art at the time of the invention would have been motivated by an expectation of curing the compositions of Danielisz et al by light induced cationic curing because the component to be cured in the compositions taught by Danielisz et al comprises epoxy and oxetanyl groups, as does the component to be cured in the compositions disclosed by Weinmann et al.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759

F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 09/959522 in view of Danielisz et al (3,388,105) or Tinsley et al (3,457,193). Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The compositions set forth in the instant claims and the compositions set forth in the claims of SN '522 comprise corresponding components. The alicyclic alkane having at least one oxetanyl group and at least one epoxy group within the same molecule set forth in the instant claims is a species of the compound having at least one oxetanyl groups and at least one epoxy group within the same molecule set forth in SN '522. Danielisz et al and Tinsley et al each disclose alicyclic alkane compounds containing an epoxy group and an oxetane group. It would have been obvious to one skilled in the art at the time of the invention to employ the species of epoxy group and oxetanyl group containing compound disclosed by Danielisz et al or Tinsley et al as the compound having at least one oxetanyl groups and at least one epoxy group within the same molecule set forth in the claims of SN '522. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success because the compounds taught by Danielisz et al or Tinsley et la contain the required reactive polymerizable groups. The claims of each application set forth a component that is a compound capable of initiating cationic polymerization under irradiation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The following prior art not relied upon is considered pertinent to applicant's disclosure. Akaki et al (GB 2310211 or US 5,882,842) disclose a composition comprising a resin, such as an acrylic resin, having oxetane functional groups and epoxy groups in the same molecule and a cationic photoinitiator for coating or printing on a substrate. Laskin et al (6,232,361) disclose ink and coating compositions comprising a cationic polymerizable compound containing at least two epoxy groups, oxetane groups or a combination of epoxy and oxetane groups, a hydroxy-functional epoxy compound or hydroxy-functional oxetane compound, water and a cationic initiator. See column 3, line 40, to column 4, line 33, and column 6, lines 7-43. Crivello (6,235,808) discloses alicyclic epoxy compounds. Suzuki et al (6,498,200) disclose compositions comprising a compound containing at least one ring selected from an oxirane ring and an oxetane ring, an onium salt, an organic peroxide and a filler.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 703 308 0040. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

Susan W Berman
Primary Examiner
Art Unit 1711

SB
September 29, 2003